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Amendments to the Claims:

Please amend the claims to read as follows, and cancel the claims indicated as cancelled without prejudice:

1. (Currently Amended) An in-vivo system comprising:
an autonomous in vivo device for traversing lumens having different diameters,
said device comprising:
an outer shell;
an illumination source; and
a light detector receiving to collect reflected light; the illumination source and the light detector positioned relative to the outer shell such that level of light emitted from the illumination source, reflected from lumen walls, and incident on the light detector, is less when the lumen walls are relatively close to said outer shell; and
a processor to, based on ~~signals from~~ light received at the detector, determine ~~[[a]]~~
~~location~~ the movement of the in-vivo device from a lumen having a first diameter
to a lumen having a second diameter.
2. (Cancelled)
3. (Cancelled)
4. (Currently Amended) The system according to claim 1, wherein the first diameter is
~~said processor is configured to indicate a movement from~~ a relatively small diameter
lumen and wherein the second diameter is ~~[[into]]~~ a larger diameter lumen.
5. (Previously Presented) The system according to claim 1, wherein the in vivo device
comprises an imager.
6. (Cancelled)
7. (Original) The system according to claim 1, wherein said detector is selected from the
group consisting of: a CMOS, a CCD and a photodiode.

8. (Currently Amended) The system according to claim 1, wherein the illumination source is a ~~comprising a primary light source and a dedicated light source~~, the device comprising a primary light source and an imager.
9. (Original) The system according to claim 8 wherein the primary light source illuminates a body lumen for imaging said body lumen with said imager and wherein the dedicated light source illuminates a body lumen for ~~locating~~ determining the movement of the in vivo device with said light detector.
10. (Currently Amended) The system according to claim 8, the device comprising an optical window, wherein the primary light source and the imager are [[is]] positioned behind [[an]] the optical window ~~in the in vivo device~~, the imager imaging via the optical window and the primary light source providing illumination source via the optical window, and the light detector receiving light not via the optical window.
11. (Cancelled)
12. (Cancelled)
13. (Cancelled)
14. (Cancelled)
15. (Original) The system according to claim 1, comprising a controller, wherein said controller is configured to receive signals from said detector and to trigger an event to occur within said in-vivo device.
16. (Original) The system according to claim 1 comprising a transmitter.
17. (Cancelled)
18. (Currently Amended) A method for locating an autonomous in vivo device for traversing lumens having different diameters, the method comprising, in an autonomous in-vivo device comprising an outer shell, an illumination source, and a light detector receiving reflected light, the illumination source and the light detector positioned relative to the outer shell such that level of light emitted from the illumination source, reflected from lumen walls, and incident on the light detector, is less when the lumen walls are relatively close to said outer shell:

illuminating a body lumen wall using the illumination source;
receiving light reflected from the body lumen wall at the light detector; and
determining, based on light received at the detector, a location the movement of the in vivo device from a lumen having a first diameter to a lumen having a second diameter, ~~based on comparing received light to a predetermined threshold.~~

19. (Cancelled)
20. (Currently Amended) The method according to claim 18, wherein said ~~comparing~~ determining comprises comparing ~~the quality of said reflected~~ reflected light to a predetermined threshold.
21. (Currently Amended) The method according to claim ~~[[18]]~~ 20, wherein said comparing comprises comparing the quantity of said reflected light to a predetermined threshold.
22. (Currently Amended) The method according to claim 18, comprising sending a signal if a movement ~~change in said reflected light~~ is determined, to a unit selected from the group consisting of: a reception unit, a processing unit and an operator unit.
23. (Currently Amended) The method according to claim 18, comprising initiating an event if there is a change in said reflected light according to a comparison to ~~[[the]]~~ a pre-determined threshold.
24. (Cancelled)
25. (Cancelled)
26. (Cancelled)
27. (Cancelled)
28. (Cancelled)
29. (Cancelled)
30. (New) The system according to claim 8, the device comprising an optical window, wherein the primary light source and the imager are positioned behind the optical window, the imager imaging via the optical window and the primary light source providing illumination via the optical window, and the light detector receiving light not via the optical window.

31. (New) The system according to claim 1, wherein the in-vivo device is a swallowable in-vivo device traversing the gastrointestinal tract and wherein the lumens are organs of the gastrointestinal tract.
32. (New) The system according to claim 1, wherein the light detector is placed at a location on said outer shell.
33. (New) The system according to claim 8 wherein the primary light source illuminates a body lumen for imaging said body lumen with said imager and wherein the dedicated light source illuminates a body lumen for determining the movement of the in vivo device with said light detector.
34. (New) The system according to claim 8, the device comprising an optical window, wherein the primary light source and the imager are positioned behind the optical window, the imager imaging via the optical window and the primary light source providing illumination source via the optical window, and the light detector receiving light not via the optical window.
35. (New) The method according to claim 18, wherein the illumination source is a dedicated light source, the device comprising a primary light source and an imager.
36. (New) The method according to claim 35, comprising:
 - using the primary light source to illuminate a body lumen for imaging said body lumen with said imager; and
 - using the dedicated light source to illuminate a body lumen for determining the movement of the in vivo device with said light detector.
37. (New) The method according to claim 35, wherein the device comprises an optical window, wherein the primary light source and the imager are positioned behind the optical window, the method comprising using the imager to image via the optical window and using the primary light source to provide illumination via the optical window, the light detector receiving light not via the optical window.